

SEARCH REQUEST FORM

Scientific and Technical Information Center

10/631/99

Requester's Full Name: Dwayne Post Examiner #: 68951 Date: 3/4/04
 Art Unit: 2602 Phone Number 30 Serial Number: 101629303
 Mail Box and Bldg/Room Location: PL 28A3 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*


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US 6421464*****
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	Type of Search	Vendors and cost where applicable
Searcher: <u>KCT</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	<u>Dialog</u>
Searcher Location: _____	Structure (#) _____	<u>Questel/Orbit</u>
Date Searcher Picked Up: _____	Bibliographic _____	<u>Dr.Cink</u>
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Online Time: <u>25</u>	Other _____	Other (specify) _____

Query/Command : prt max legalall


1 / 1 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  US6421464 B1 20020716 [US6421464]
TI - (B1) Fast lapped image transforms using lifting steps
PA - (B1) FASTVDO LLC (US)
PA0 - FastVDO LLC, Columbia MD [US]
IN - (B1) TRAN TRAC D (US); TOPIWALA PANKAJ (US)
AP - US21221098 19981216 [1998US-0212210]
PR - US21221098 19981216 [1998US-0212210]
IC - (B1) G06K-009/36
PCL - ORIGINAL (O) : 382232000
DT - Basic
CT - US5081645; US5339265; US5592569; US5604824; US5764698; US5805739;
 US5812219; US5857036; US5859788; US5883981; US5898798; US5901251;
 US5903669; US5946038; US5960123; US5973755; US5995668; US5999656;
 US6018753; US6144771; US6094631; US6104982; US6144773; US6198412
 Liang et al., "ITO-Telecommunications Standardization Sector", A 16-bit
 architecture fo H.26L treating DCT Transforms and quantization, pp. 1-12, May
 29, 2001.*

 Sweldens, Wim, "The Lifting Scheme: A custom design construction of
 biorthogonal wavelets", pp. 1-29, Nov. 1994.*

 Nayebi et al., "A time domain view of filter banks and wavelets", Signals,
 Systems and Computers, 1991. 1991 Conference Record of the Twenty-Fifth
 Asilomar Conference on, 1991, pp. 736-740 vol. 2.
STG - (B1) U.S. Patent (no pre-grant pub.) after Jan. 2, 2001
AB - This invention introduces a class of multi-band linear phase lapped biorthogonal
 transforms with fast, VLSI-friendly implementations via lifting steps called the
 LiftLT. The transform is based on a lattice structure which robustly enforces both
 linear phase and perfect reconstruction properties. The lattice coefficients are
 parameterized as a series of lifting steps, providing fast, efficient in-place
 computation of the transform coefficients as well as the ability to map integers to
 integers. Our main motivation of the new transform is its application in image
 and video coding. Comparing to the popular 8 * 8 DCT, the 8 * 16 LiftLT only
 requires 1 more multiplication, 22 more additions, and 6 more shifting
 operations. However, image coding examples show that the LiftLT is far superior
 to the DCT in both objective and subjective coding performance. Thanks to
 properly designed overlapping basis functions, the LiftLT can completely
 eliminate annoying blocking artifacts. In fact, the novel LiftLT's coding
 performance consistently surpasses that of the much more complex 9/7-tap
 biorthogonal wavelet with floating-point coefficients. More importantly, our
 transform's block-based nature facilitates one-pass sequential block coding,
 region-of-interest coding/decoding as well as parallel processing.
UP - 2002-29

/// CRXX - ©CLAIMS/RRX

PN -  6,421,464 A 20020716 [US6421464]

PA - FastVDO LLC

ACT - 20030731 REASSIGNED
ASSIGNMENT OF ASSIGNORS INTEREST

Assignor: FAST VIDEO LLC DATE SIGNED: 07/29/2003

Assignee: FASTVDO LLC 7150 RIVERWOOD DRIVE COLUMBIA
MARYLAND 21046-1245

Reel 013835/Frame 0800

Contact: BURNS & LEVINSON LLP FREDERICK C. WILLIAMS 1030 15TH
STREET, N.W. SUITE 300 WASHINGTON, DC 20005-1501

LEVEL 1 - 1 OF 1 PATENT

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

6421464

<=6> Get Drawing Sheet 1 of 6

July 16, 2002

Fast lapped image transforms using lifting steps

APPL-NO: 212210 (09)

FILED-DATE: December 16, 1998

GRANTED-DATE: July 16, 2002

CORE TERMS: transform, lifting, liftlt, coding, lapped, fast, coefficient,
channel, wavelet, processing ...

LEXIS-NEXIS
Library: PATENT
File: ALL

6,421,464 OR 6421464

LEXIS-NEXIS
Library: **PATENT**
File: **CASES**

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5/39/1

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Basic Patent (No,Kind,Date): US 6421464 BA 20020716 <No. of Patents: 001>

Patent Family:

Patent No	Kind	Date	Applic No	Kind	Date
US 6421464	BA	20020716	US 212210	A	19981216 (BASIC)

Priority Data (No,Kind,Date):

US 212210 A 19981216

PATENT FAMILY:

UNITED STATES OF AMERICA (US)

Patent (No,Kind,Date): US 6421464 BA 20020716

FAST LAPPED IMAGE TRANSFORMS USING LIFTING STEPS (English)

Patent Assignee: FASTVDO LLC (US)

Author (Inventor): TRAN TRAC D (US); TOPIWALA PANKAJ (US)

Priority (No,Kind,Date): US 212210 A 19981216

Applic (No,Kind,Date): US 212210 A 19981216

National Class: * 382232000

IPC: * G06K-009/36

Language of Document: English

UNITED STATES OF AMERICA (US)

Legal Status (No,Type,Date,Code,Text):

US 6421464	P	19981216	US AE	APPLICATION DATA (PATENT)
				(APPL. DATA (PATENT))

US 6421464	P	20020716	US BA	PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)
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